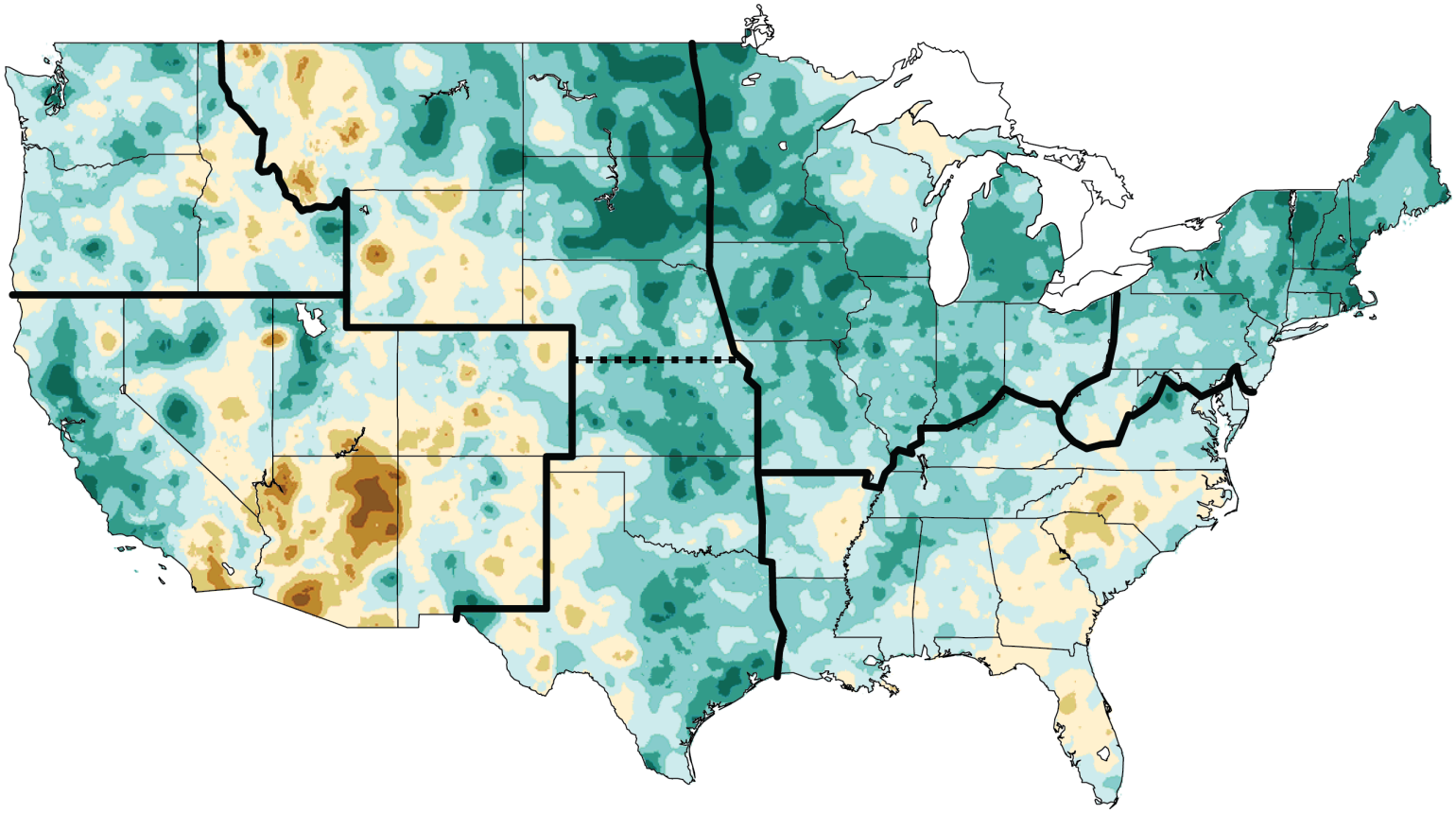
Current Drought Conditions, Climate Outlook, and Historical Drought in Illinois and Indiana

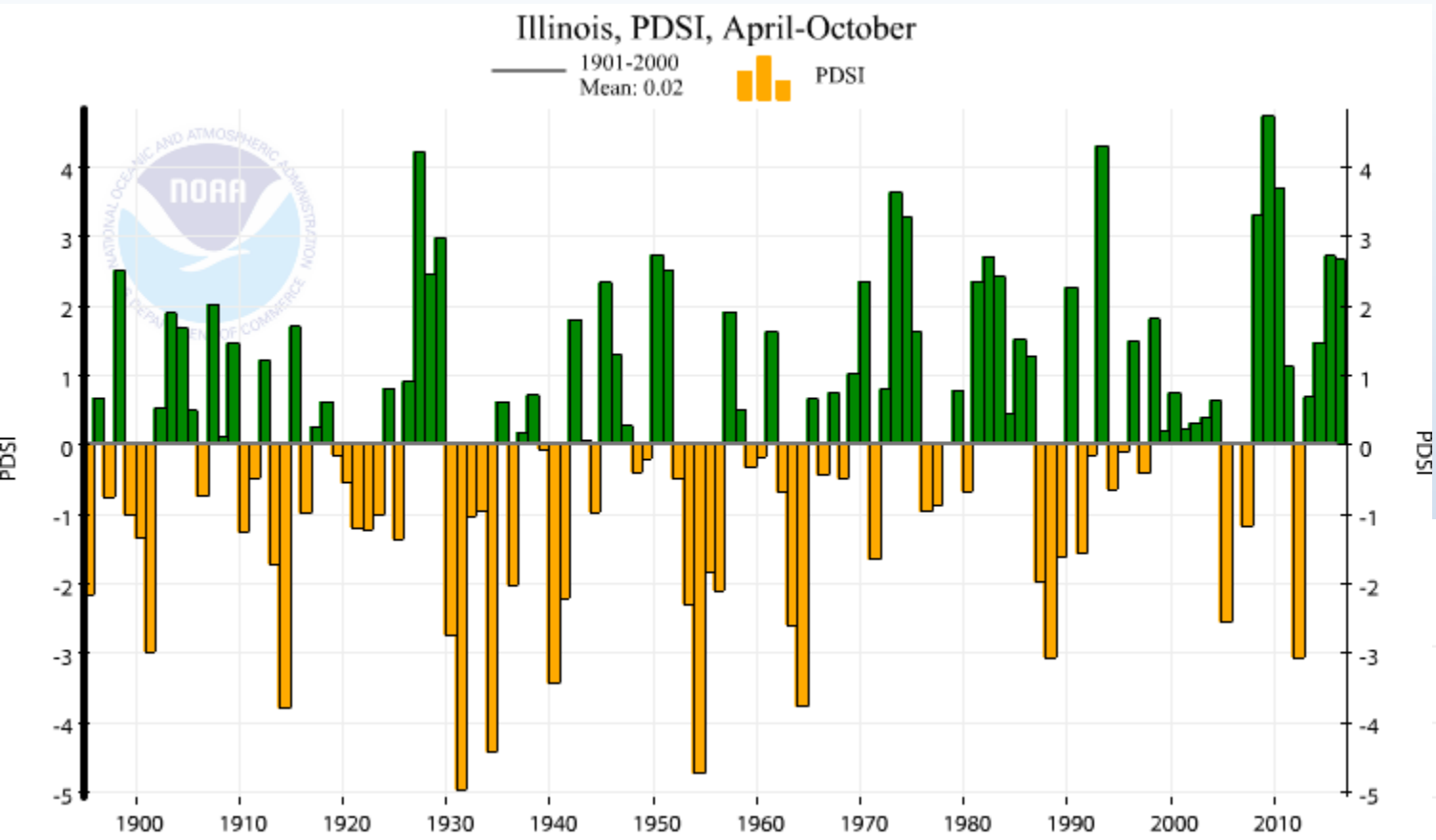
Dr. Jim Angel, State Climatologist
Illinois State Water Survey
Prairie Research Institute

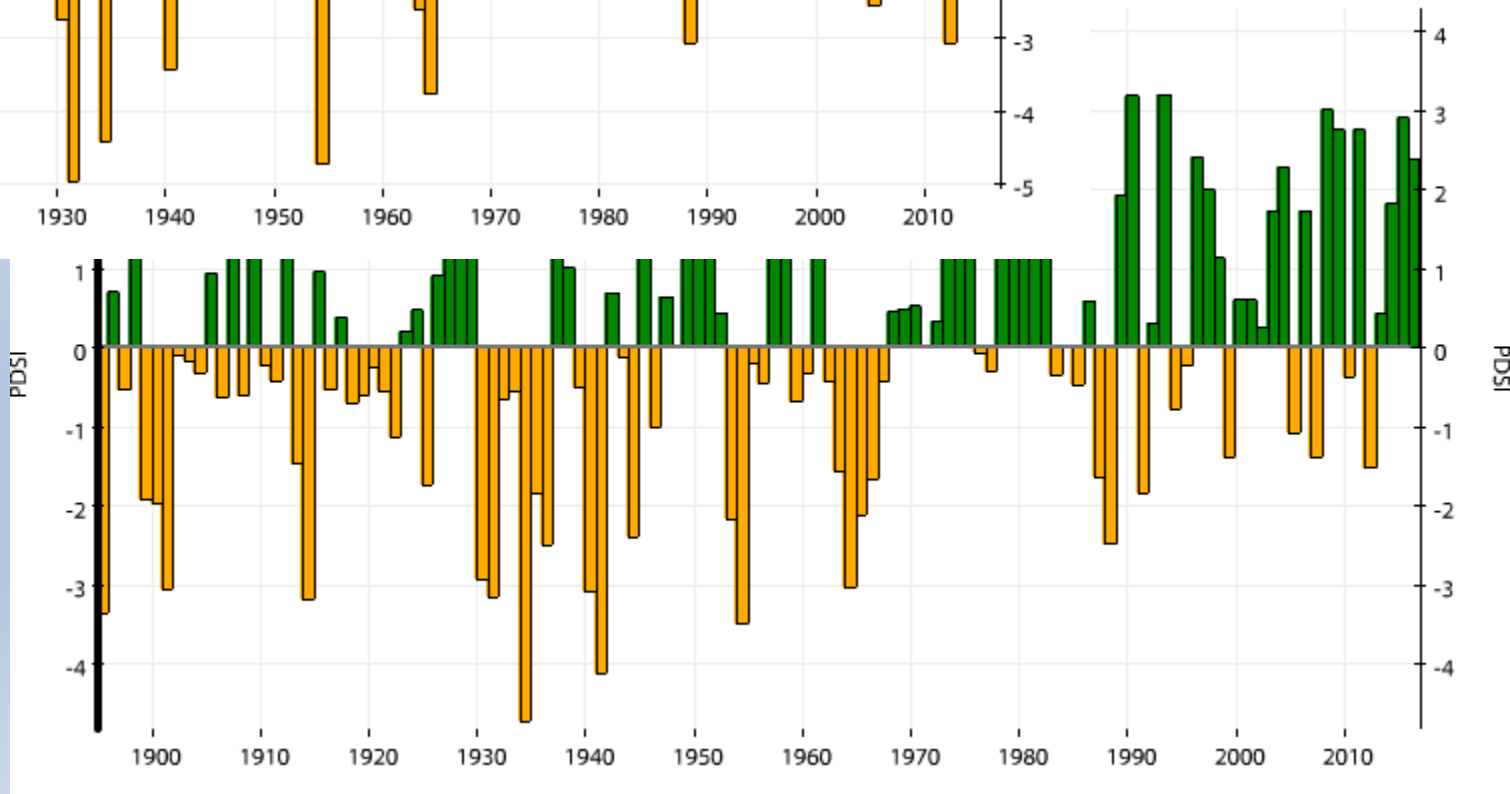
ILLINOIS
illinois.edu

Observed U.S. Precipitation Change



The colors on the map show annual total precipitation changes for 1991-2012 compared to the 1901-1960 average, and show wetter conditions in most areas.


Illinois, PDSI, April-October
1901-2000
Mean: 0.02
PDSI
PDSI
4
3
2
1
0
-1
-2
-3
-4
-5
1900
1910
1920
1930
1940
1950
1960
1970
1980
1990
2000
2010

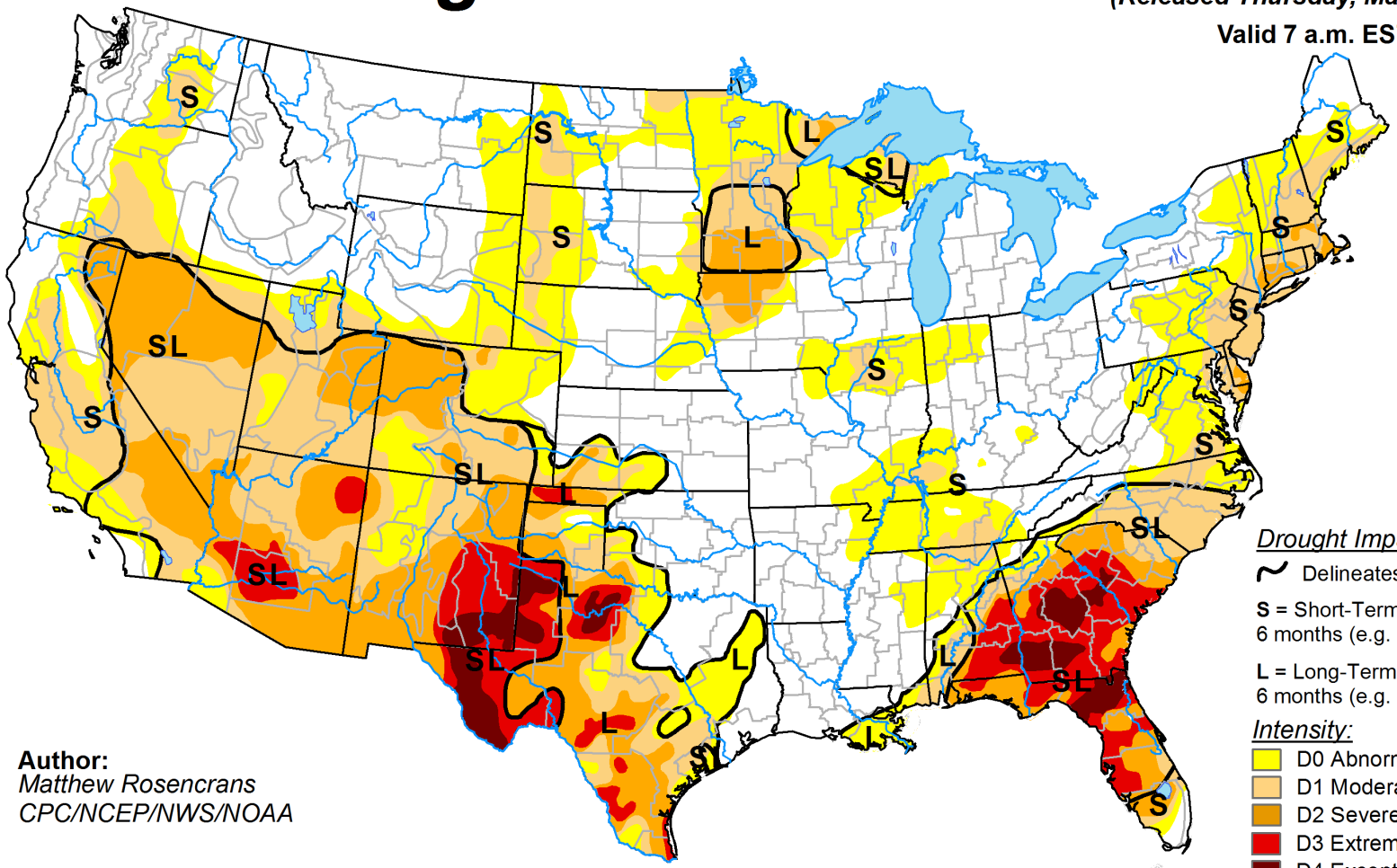

PDSI
PDSI
1
0
-1
-2
-3
-4
1900
1910
1920
1930
1940
1950
1960
1970
1980
1990
2000
2010

U.S. Drought Monitor

May 1, 2012

(Released Thursday, May. 3, 2012)

Valid 7 a.m. EST



Author:
Matthew Rosencrans
CPC/NCEP/NWS/NOAA

Drought Impact Types:

~ Delineates dominant impacts

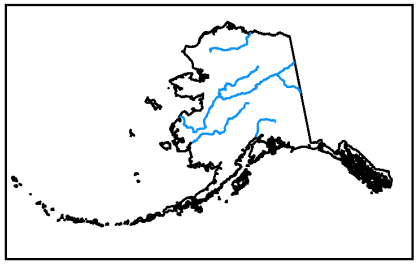
S = Short-Term, typically less than 6 months (e.g. agriculture, grasslands)

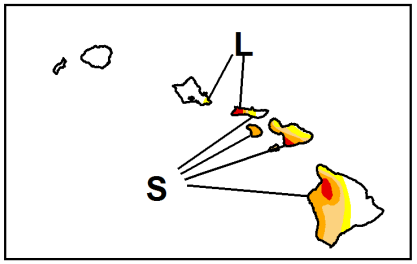
L = Long-Term, typically greater than 6 months (e.g. hydrology, ecology)

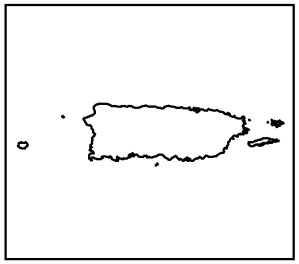
Intensity:

- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.







USDA National Drought Mitigation Center

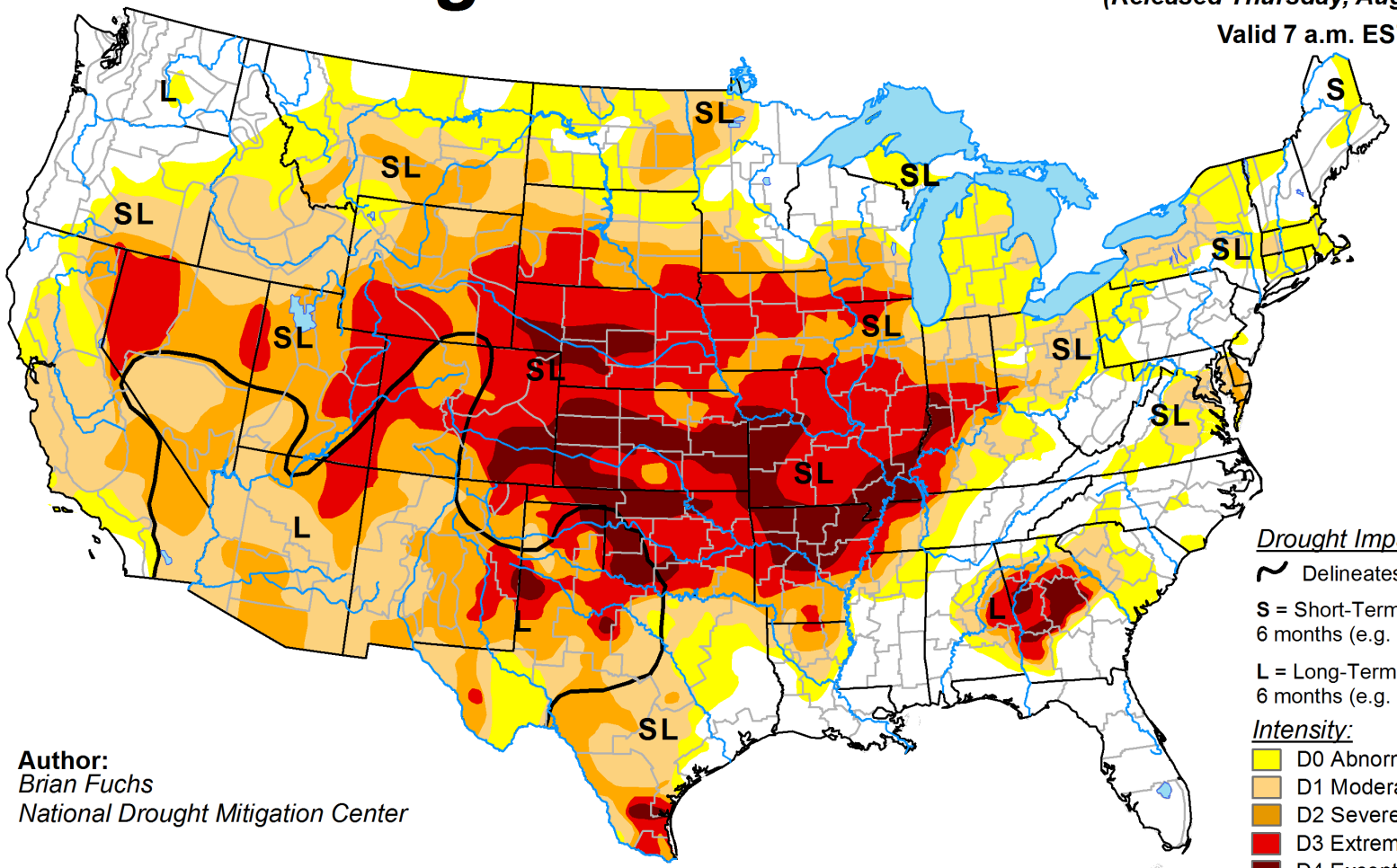
http://droughtmonitor.unl.edu/

U.S. Drought Monitor

August 28, 2012

(Released Thursday, Aug. 30, 2012)

Valid 7 a.m. EST



Author:
Brian Fuchs
National Drought Mitigation Center

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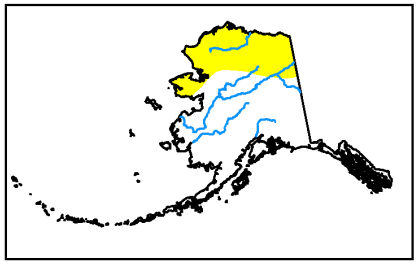

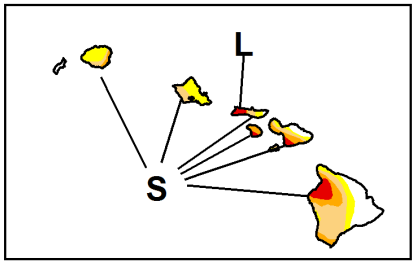

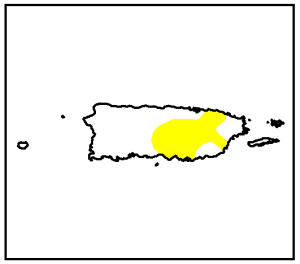

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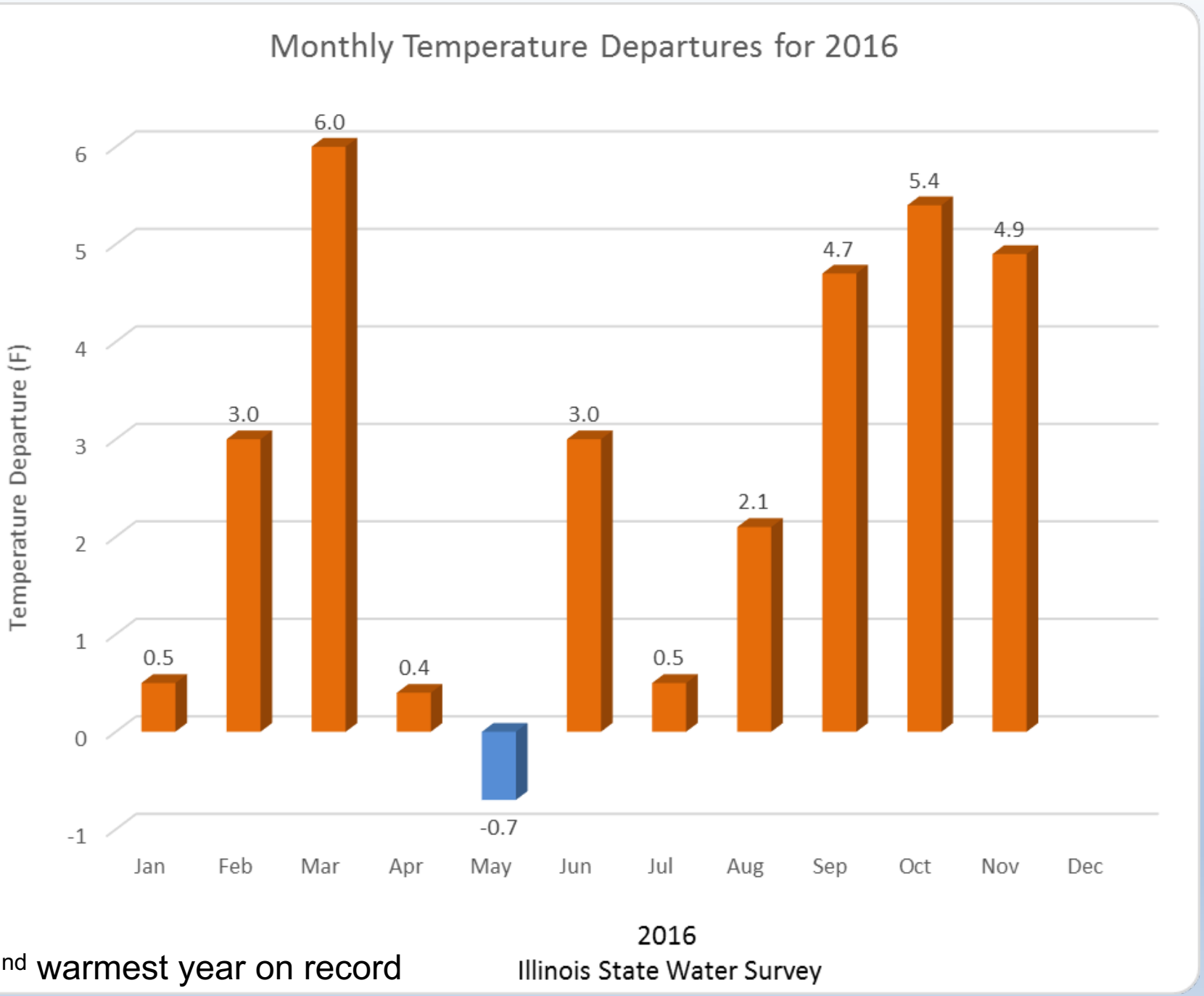
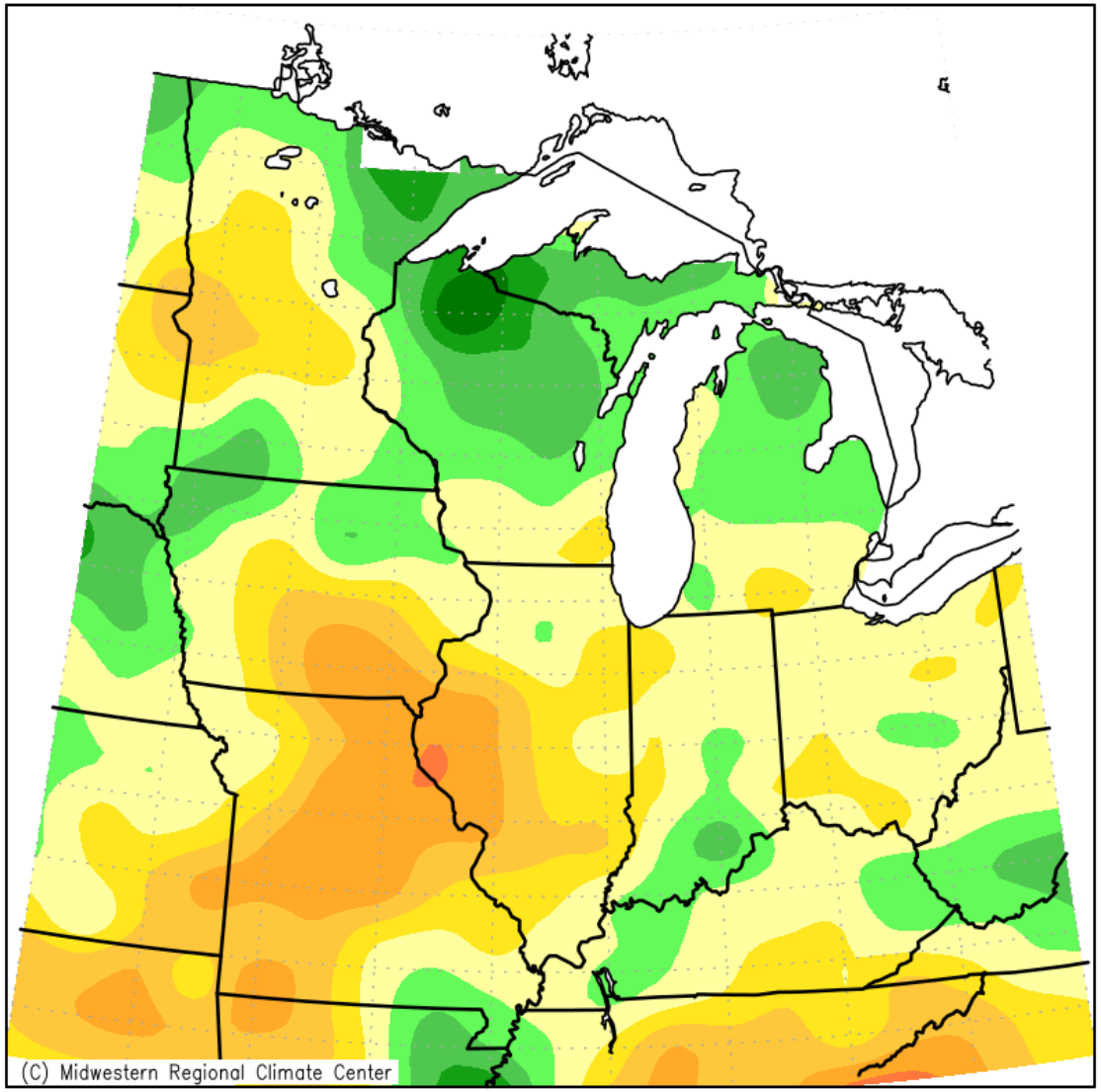
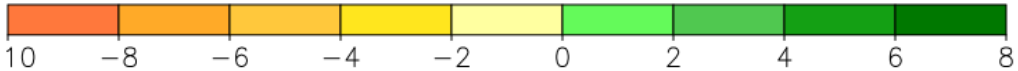


2nd warmest year on record

Accumulated Precipitation (in): Departure from Mean
January 1, 2016 to June 30, 2016

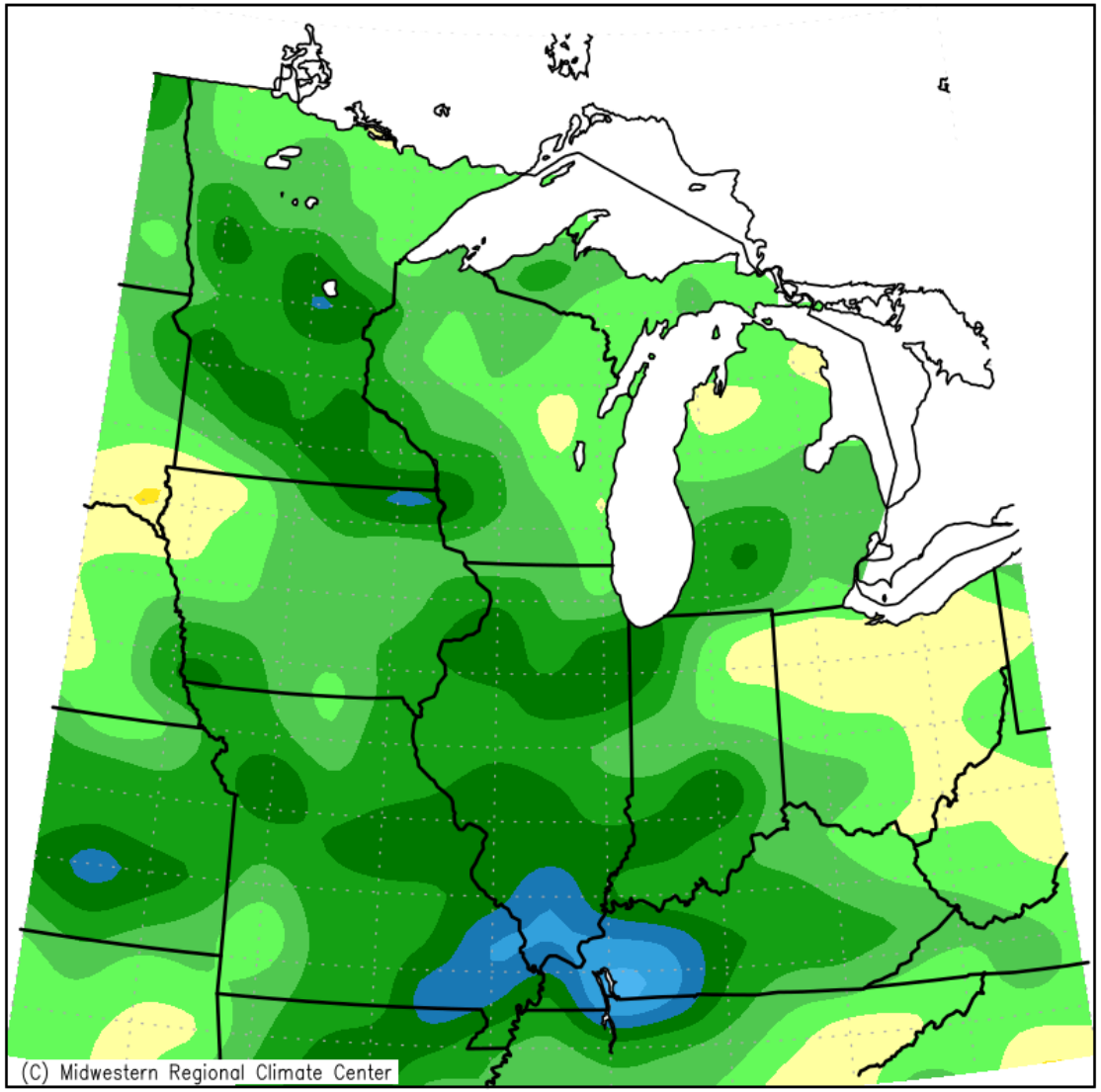


Mean period is 1981–2010.



Midwestern Regional Climate Center

Accumulated Precipitation (in): Departure from Mean
July 1, 2016 to August 31, 2016

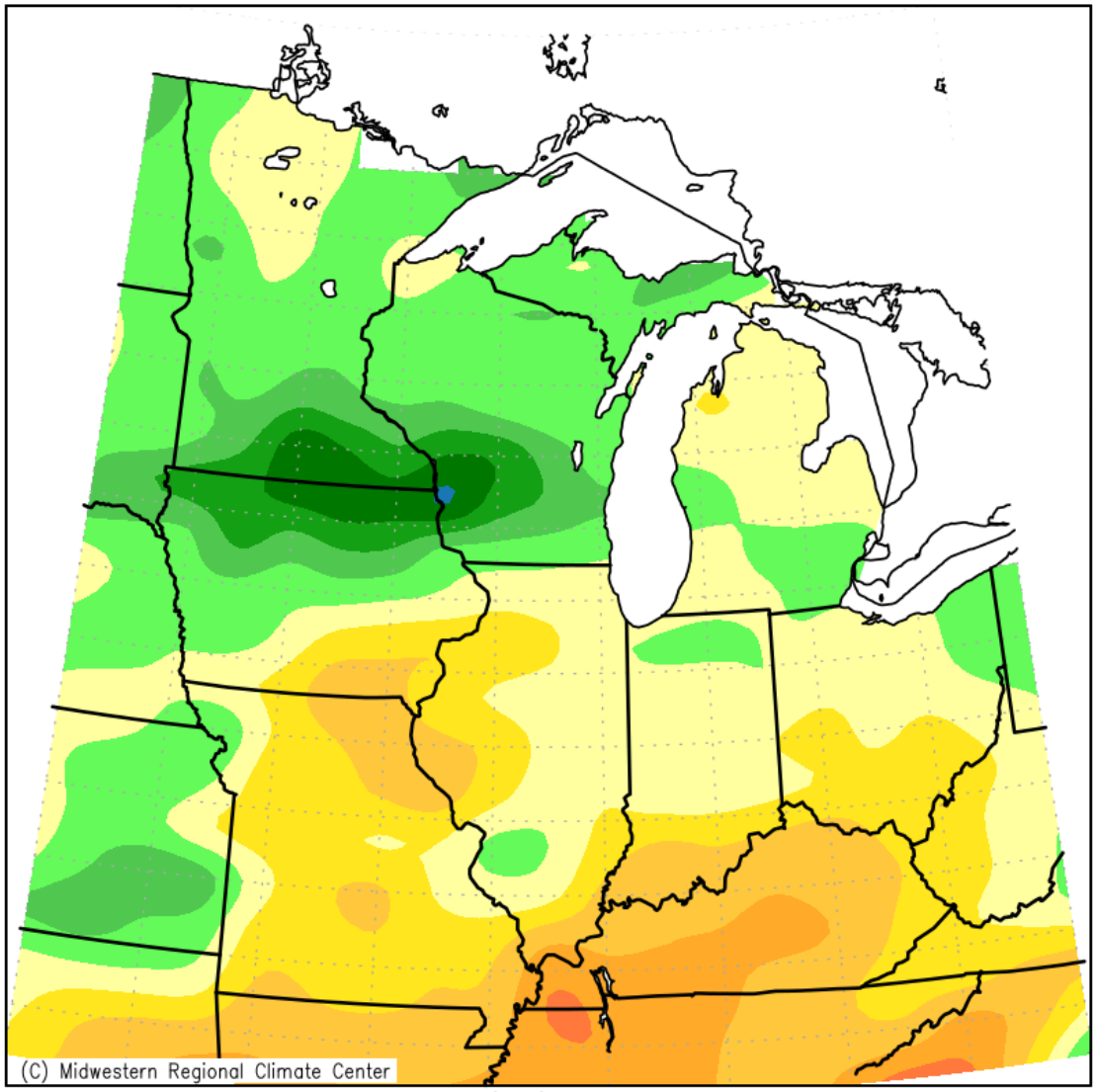


Mean period is 1981–2010.

−4 −2 0 2 4 6 8 10 12 14

Midwestern Regional Climate Center

Accumulated Precipitation (in): Departure from Mean
September 1, 2016 to December 4, 2016



Mean period is 1981–2010.

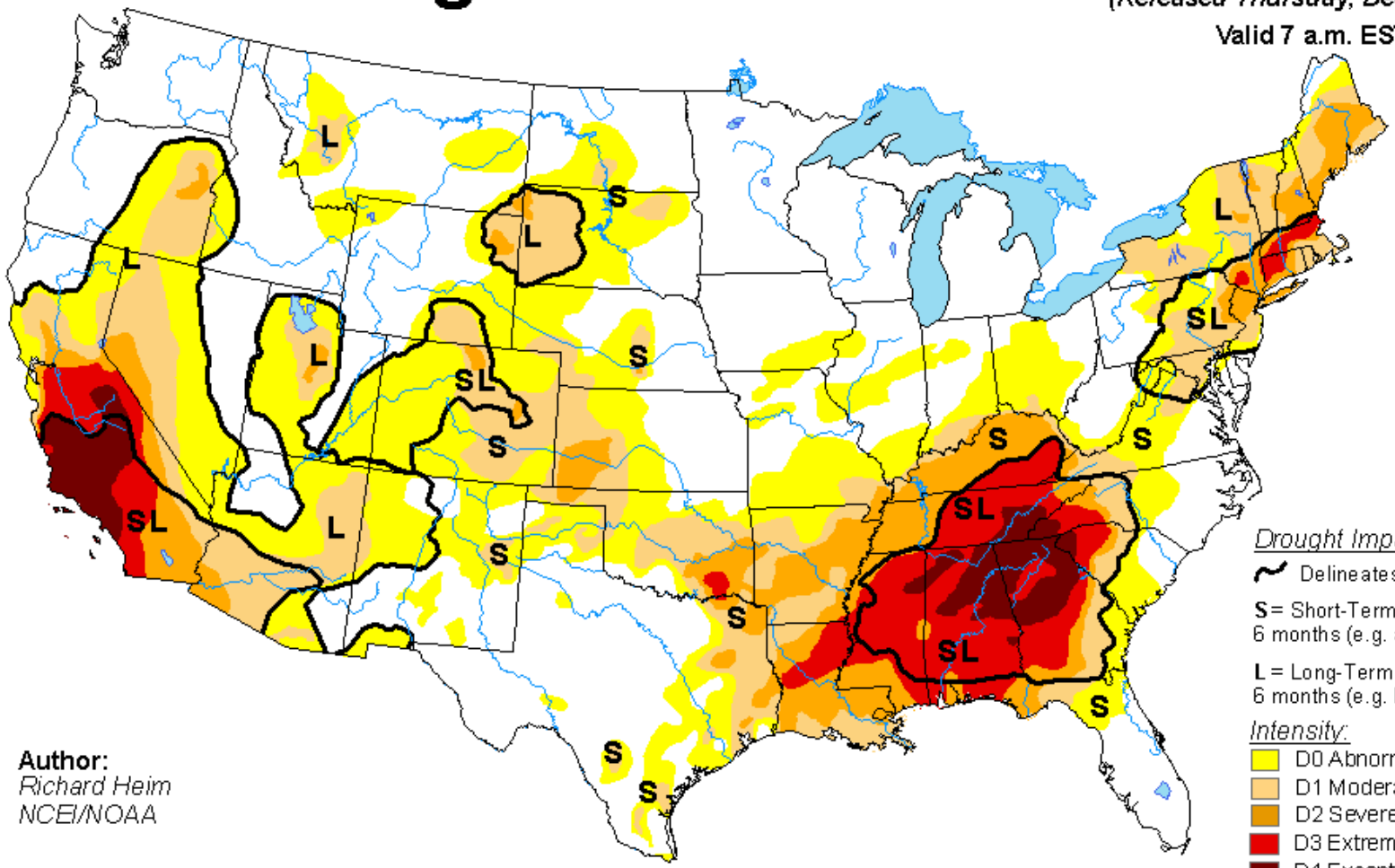
Midwestern Regional Climate Center

U.S. Drought Monitor

November 29, 2016

(Released Thursday, Dec. 1, 2016)

Valid 7 a.m. EST



Author:
Richard Heim
NCEI/NOAA

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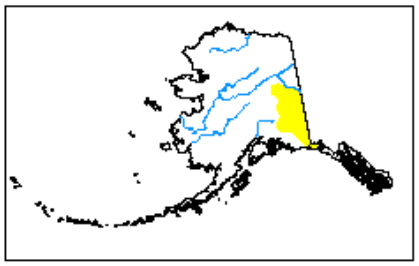
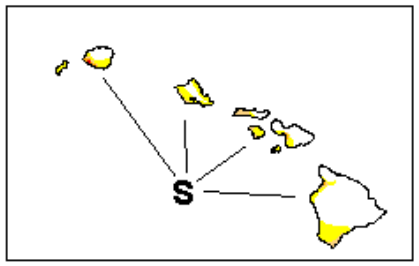
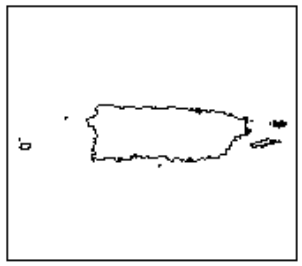






USDA

National Drought Mitigation Center

NOAA

http://droughtmonitor.unl.edu/

La Niña

- La Niña conditions are present and slightly favored to persist (~55% chance) through winter 2016-17.

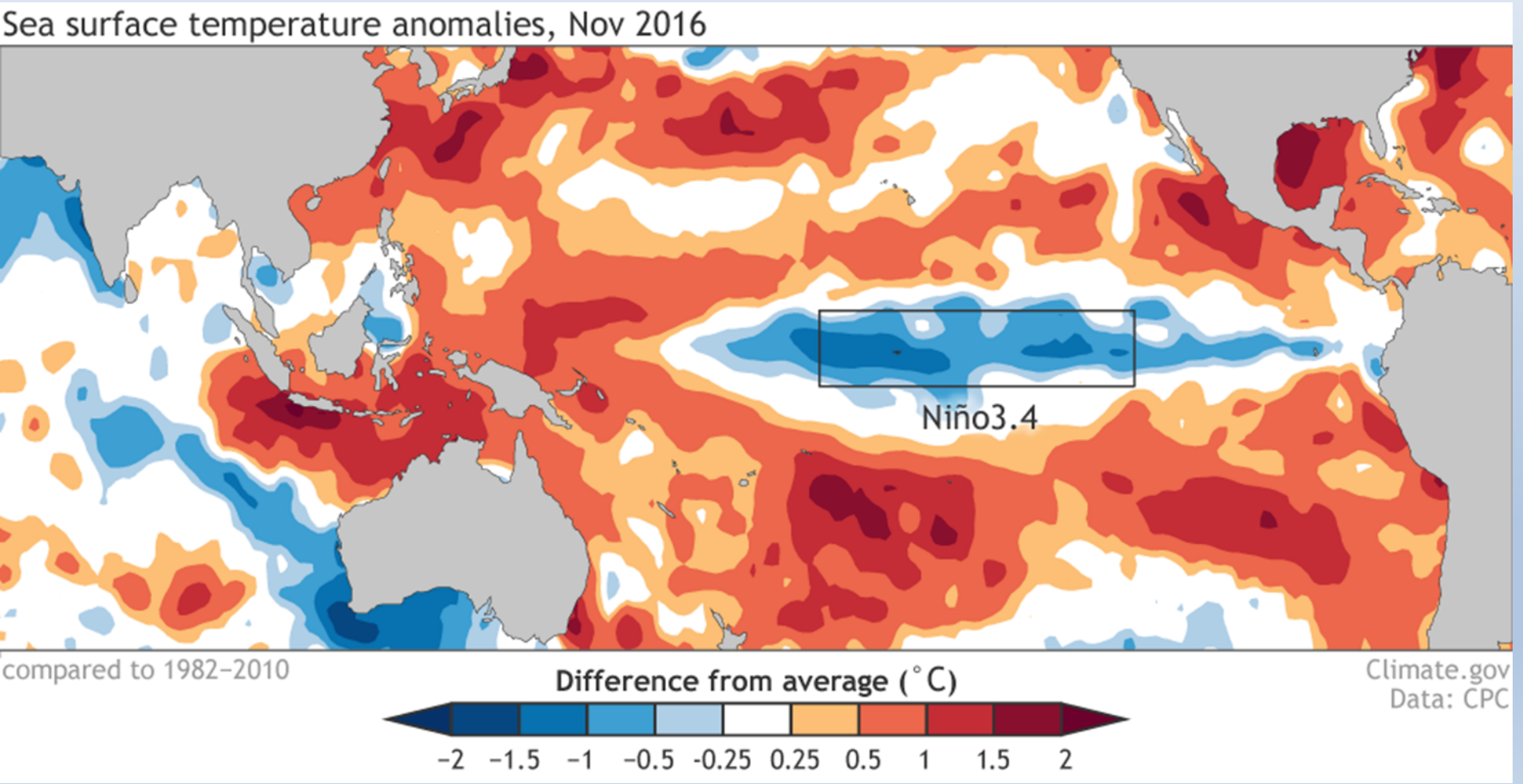
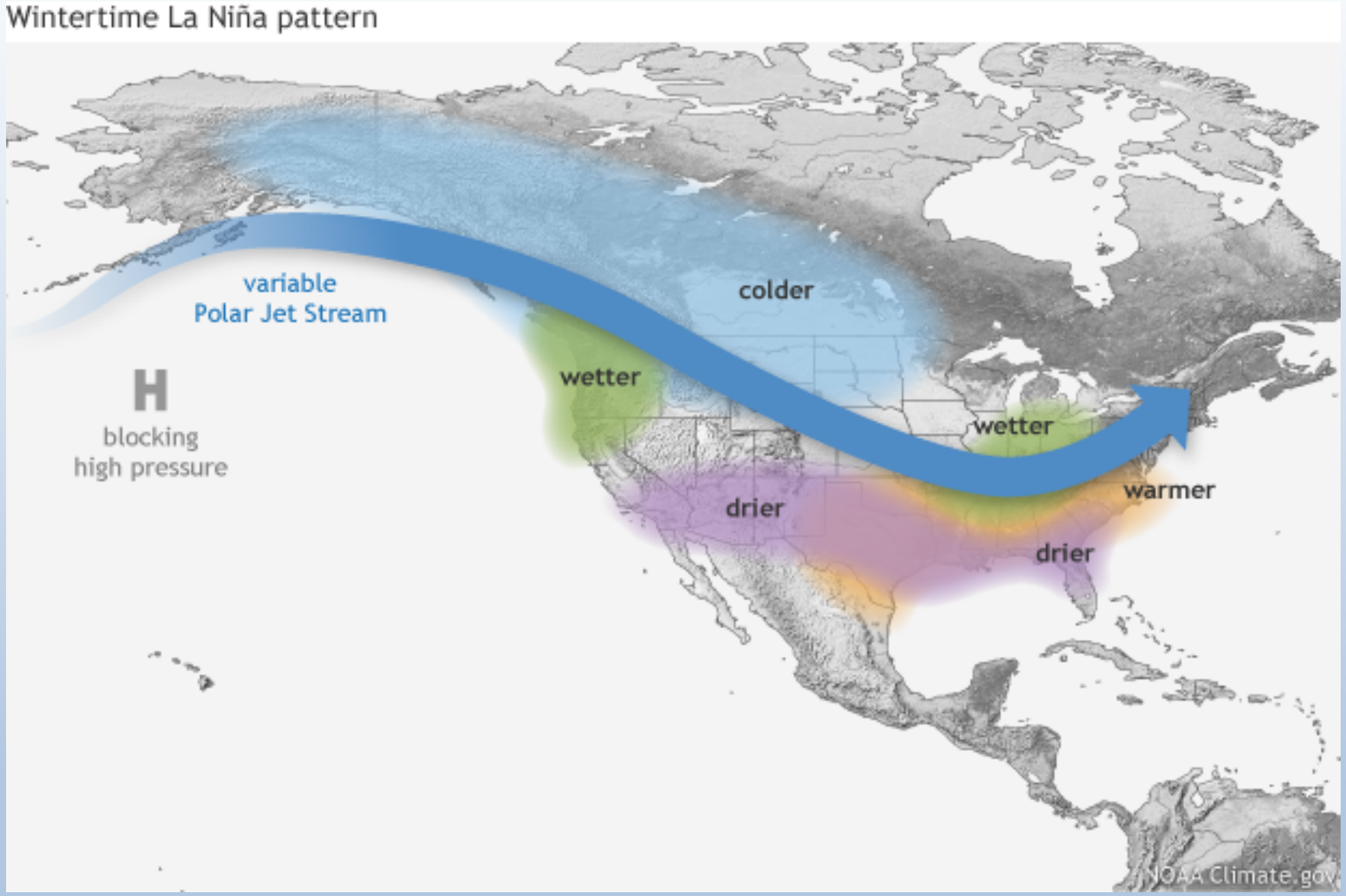


Figure: https://www.climate.gov/news-features/department/enso-blog

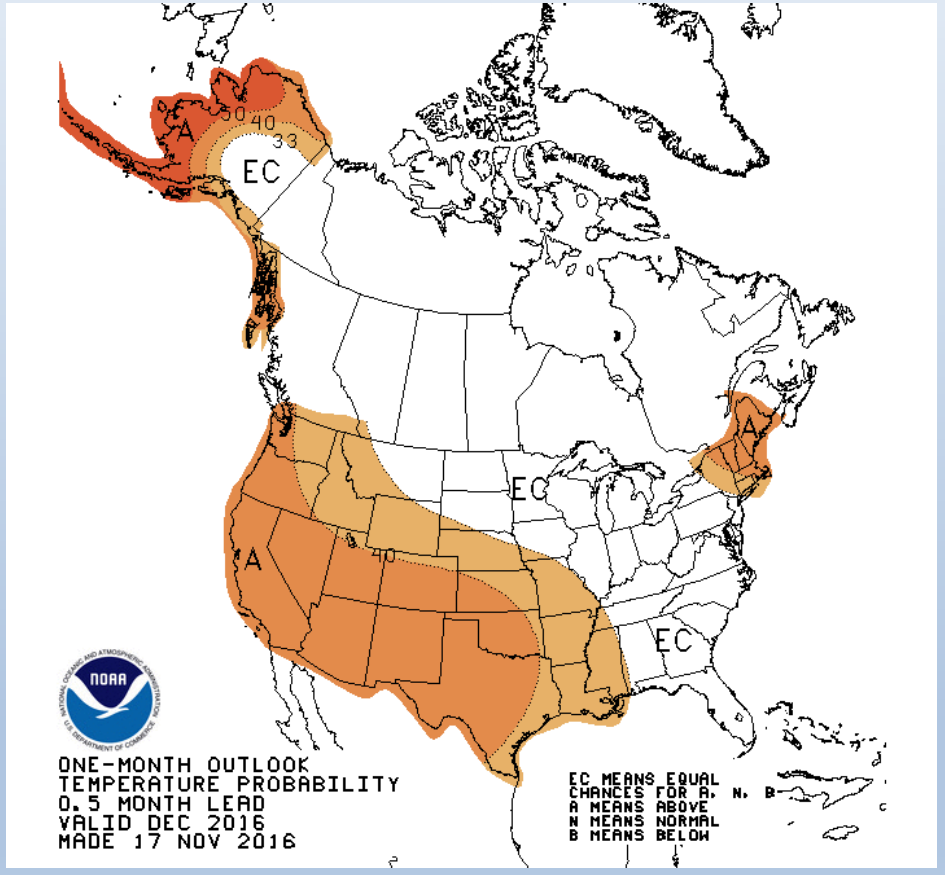


Changes in the winter atmosphere during La Niña. NOAA Climate.gov image by Fiona Martin.

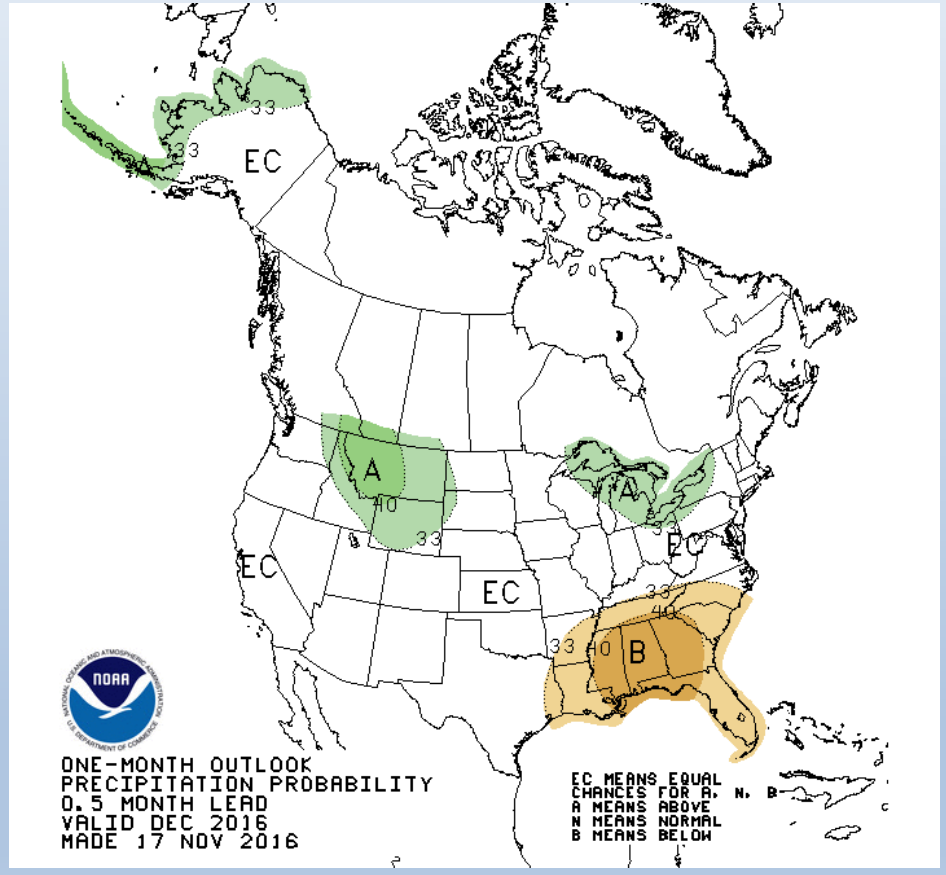
Caveats

- La Niña is not as well-defined as El Niño
- The impacts of La Niña are less clear than El Niño
- There are always other factors at play – Canadian and Siberian snow cover, reduced ice cover in the Arctic Ocean, ocean temperatures in other parts of the Pacific and Atlantic, overall warming trend …

December Outlook



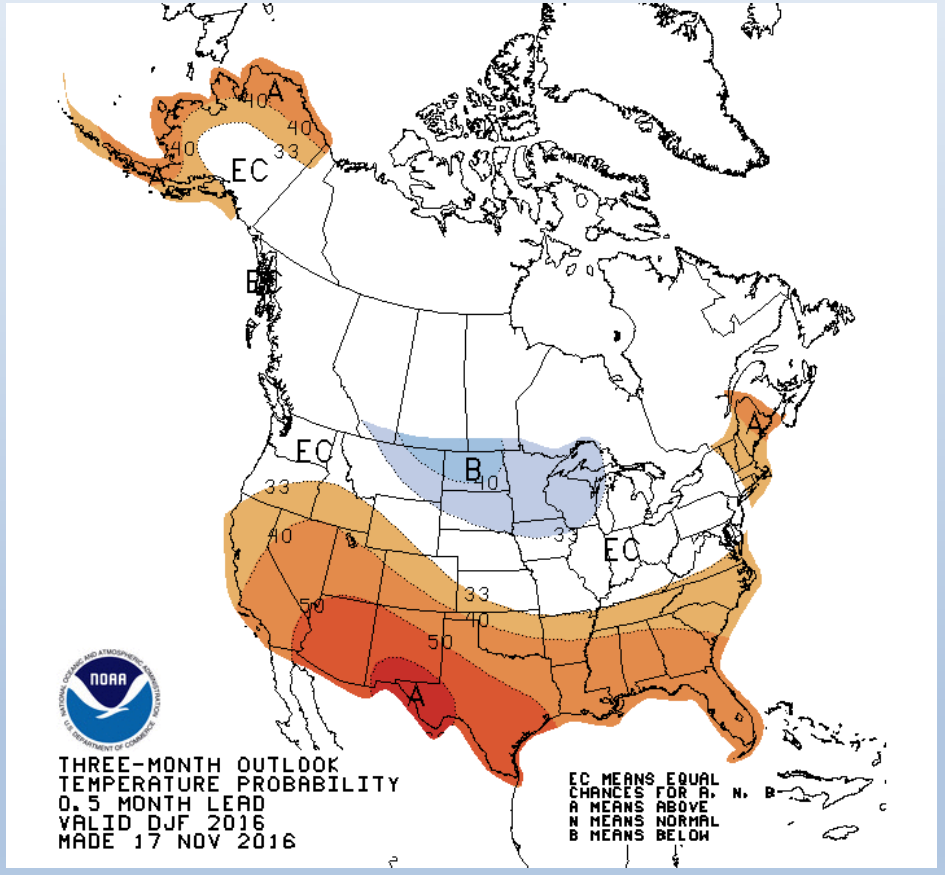
Temperature



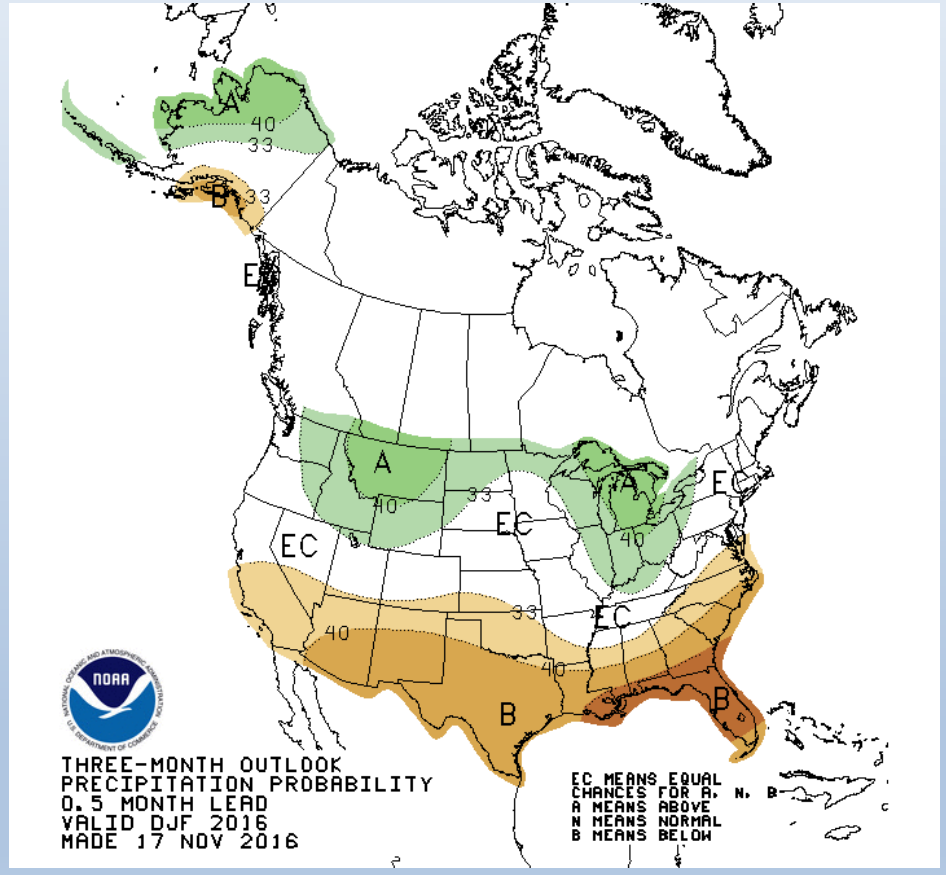
Precipitation

http://www.cpc.ncep.noaa.gov/

December - February Outlook

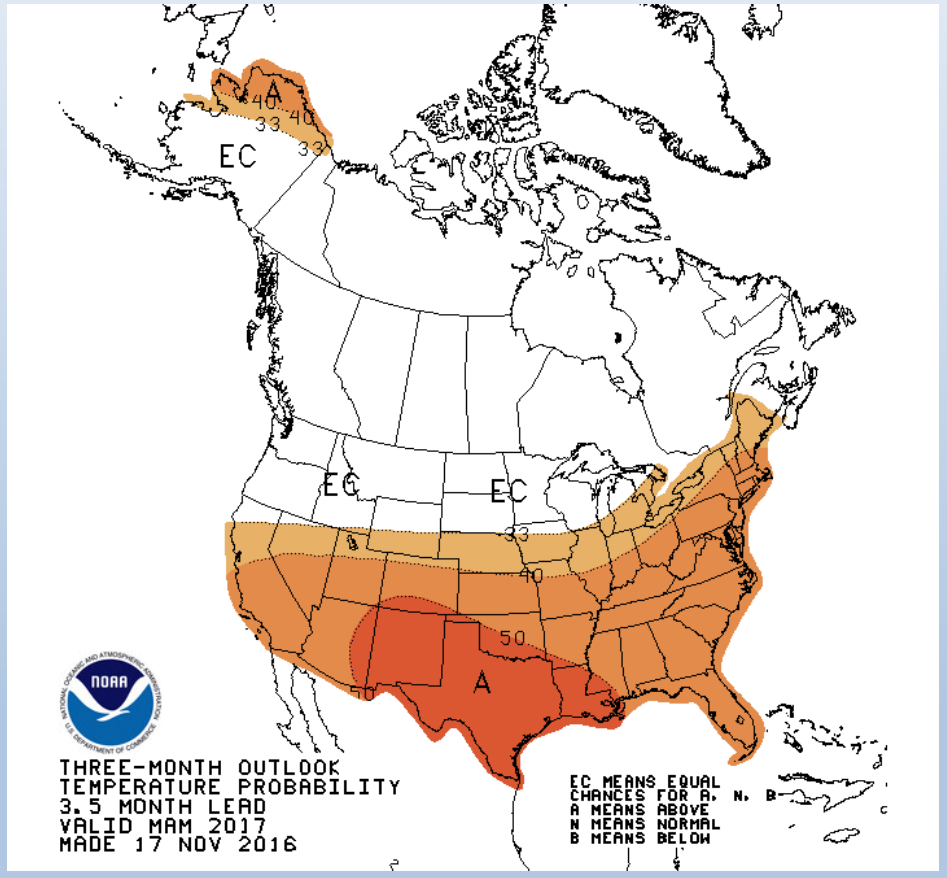


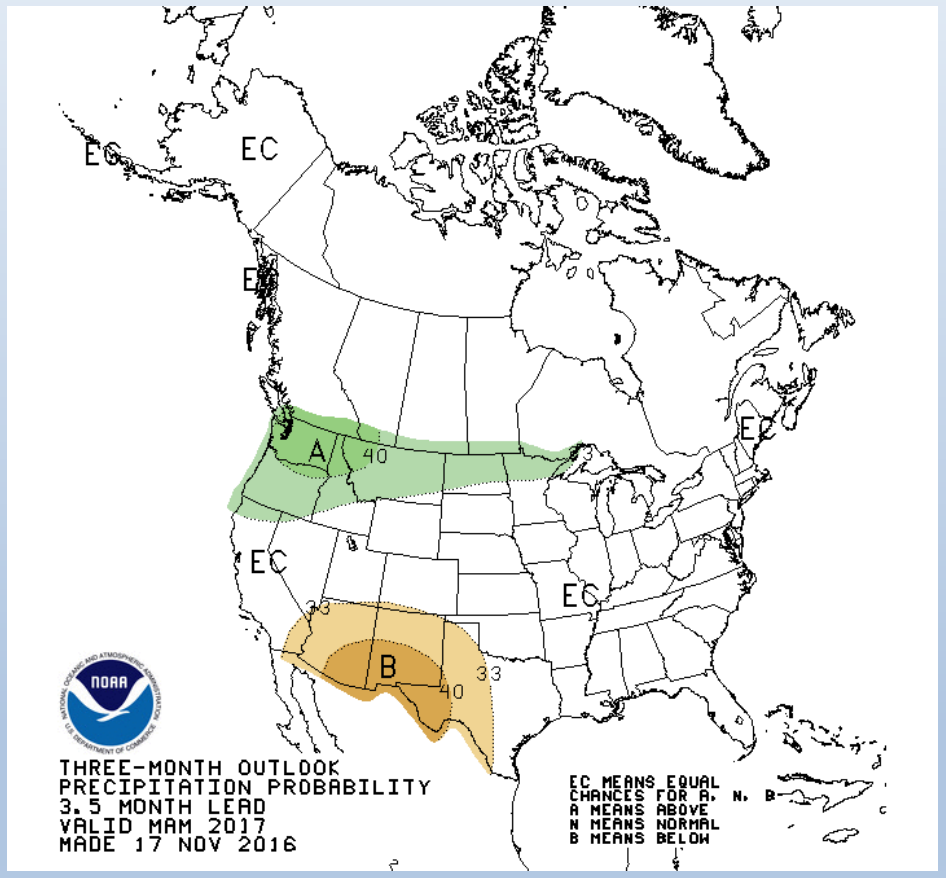
Temperature



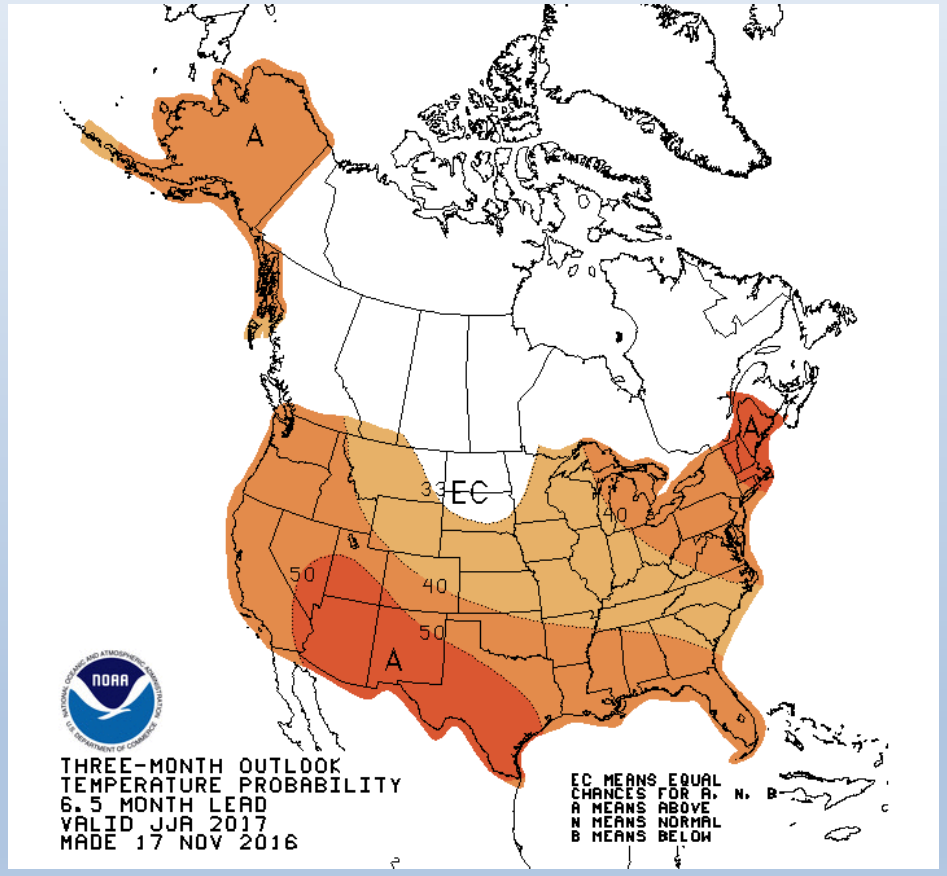
Precipitation

March – May Outlook

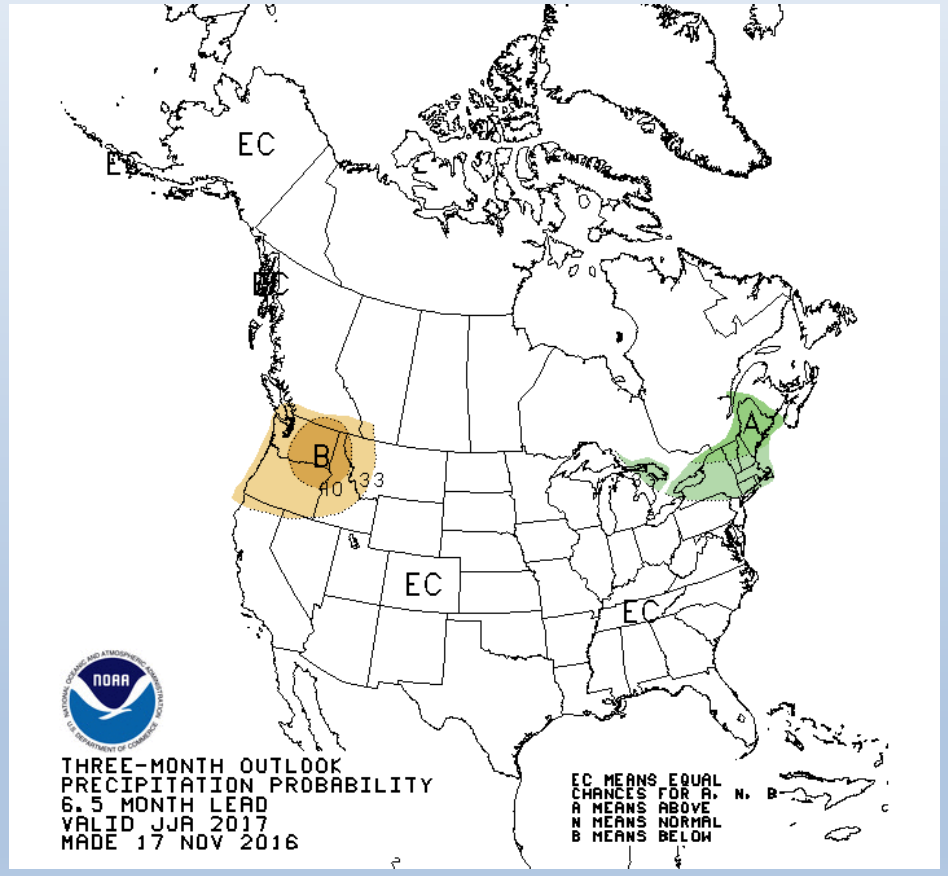




June – August Outlook



Temperature

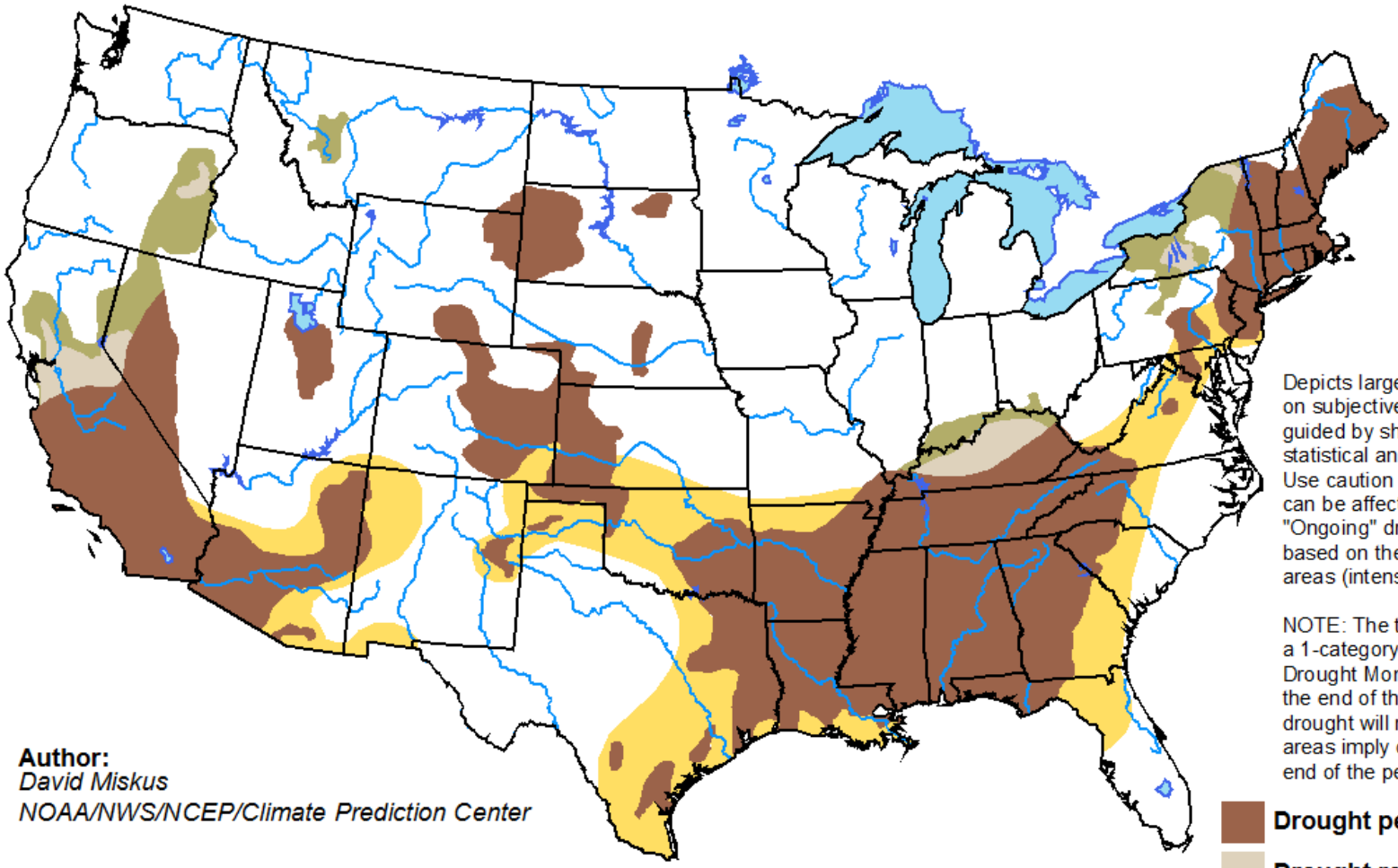


Precipitation

U.S. Seasonal Drought Outlook *Valid for November 17 - February 28, 2017*

Drought Tendency During the Valid Period

Released November 17, 2016



Depicts large-scale trends based on subjectively derived probabilities guided by short- and long-range statistical and dynamical forecasts. Use caution for applications that can be affected by short lived events. "Ongoing" drought areas are based on the U.S. Drought Monitor areas (intensities of D1 to D4).

NOTE: The tan areas imply at least a 1-category improvement in the Drought Monitor intensity levels by the end of the period, although drought will remain. The green areas imply drought removal by the end of the period (D0 or none).

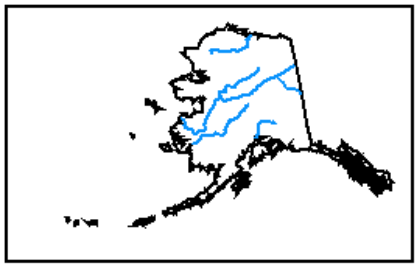
Drought persists

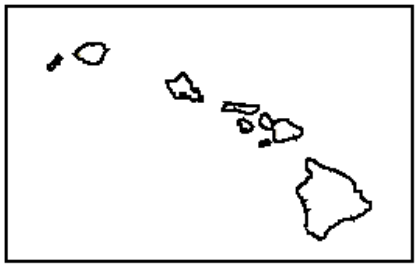
Drought remains but improves

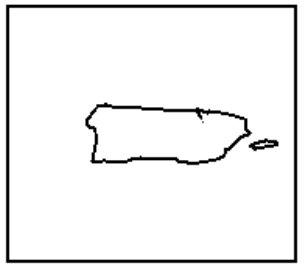
Drought removal likely

Drought development likely

Author:
David Miskus
NOAA/NWS/NCEP/Climate Prediction Center







http://go.usa.gov/3eZ73

FARMERS' ALMANAC®

2016 WINTER OUTLOOK

Wet & Mild

Very Snowy & Typical Winter Cold

Snowy & Bitter Cold

Snow Filled & Frigid

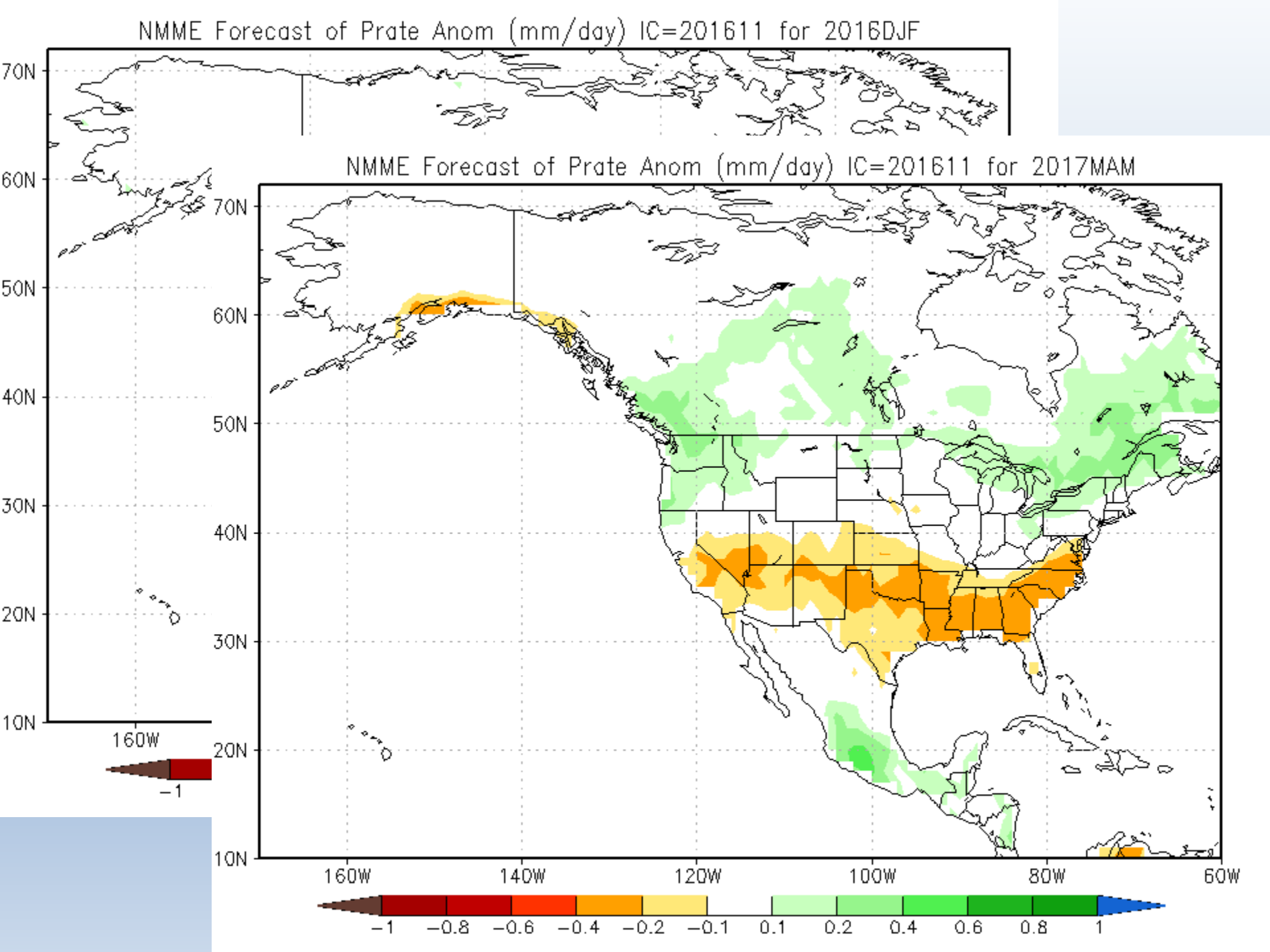
Snowy & Unseasonably Cold

Dry & Mild

Very Wet & Chilly

Wet & Very Chilly

#OrangeIsTheTrueNAC


NMME Forecast of Prate Anom (mm/day) IC=201611 for 2016DJF
NMME Forecast of Prate Anom (mm/day) IC=201611 for 2017MAM
70N
60N
50N
40N
30N
20N
10N
160W
140W
120W
100W
80W
60W
−1
−0.8
−0.6
−0.4
−0.2
−0.1
0.1
0.2
0.4
0.6
0.8
1

Thank You!

Jim Angel

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Email: jimangel@illinois.edu

Blog: climateillinois.wordpress.com

Twitter: @JimAngel22